CLAIMS

What is claimed is:

1. A compound valve assembly for controlling pressure drop in oil flowing from a high pressure source through said assembly into a control gallery, comprising:

a) a primary valve disposable in said flowing oil as a relief valve to bypass a portion of said oil to provide low pressure in said oil flowing to said control gallery; and

b) a controllable second valve adjacent said primary valve for allowing or preventing flow of said bypass oil to allow opening of said primary valve as desired to provide said low oil pressure in said control gallery, and to prevent said opening of said primary valve as desired to provide high oil pressure in said control gallery.

2. A valve assembly in accordance with Claim 1 wherein said primary valve comprises:

a) a first valve body having first and second chambers therein separated by a first valve seat;

b) a relief plunger disposed in said second chamber for variably seating against said first valve seat;

c) a relief spring biasedly disposed in said second chamber against said plunger for preventing flow of oil across said first valve seat when oil pressure in said first chamber is insufficient to overcome said relief spring bias; and

d) a passage through said relief plunger for communication between said first and second chambers.

3. A valve assembly in accordance with Claim 2 wherein said second valve comprises:

a) a second valve body disposed in said second chamber and having a third chamber separated from said second chamber by a second valve seat;

b) a pintle valve head disposed in said third chamber for variably seating against said second valve seat;

c) a return spring disposed against said pintle valve head in said third chamber for urging said second valve toward an open position;

d) means for selectively closing said secondary valve; and

e) a relief passage leading from said third chamber for flow of oil passing through said secondary valve.

4. A valve assembly in accordance with Claim 3 wherein said means for closing includes a solenoid actuator operatively connected to said pintle valve head.

5. A valve assembly in accordance with Claim 3 further including a flow path for said bypass oil from said first chamber to said relief passage, said flow path comprising:

a) an annular space around said first valve body and communicating with said relief passage; and

b) a port connecting said second chamber and said relief passage.

6. A compound valve assembly disposable in an internal combustion engine for controlling pressure of oil flowing from an oil pump through an oil supply gallery into a control gallery for variably controlling actuation of an engine component, comprising:

a) a primary valve disposable in said flowing oil between said supply gallery and said control gallery to bypass a portion of said oil to an oil sump to provide low oil pressure in said control gallery; and

b) a solenoid-actuable second valve adjacent said primary valve for allowing opening of said primary valve to provide said low oil pressure as desired in said control

gallery, and for preventing said opening of said primary valve to provide high oil pressure as desired in said control gallery.

7. An internal combustion engine having a system for deactivation of a least one engine valve, the engine comprising a compound valve assembly for controlling pressure drop in oil flowing from a high pressure source through the valve assembly into a control gallery for deactivating said valve, the valve assembly including,

a primary valve disposable in said flowing oil as a relief valve to bypass a portion of said oil to provide low pressure in said oil flowing to said control gallery, and

a controllable second valve adjacent said primary valve for allowing or preventing flow of said bypass oil to allow opening of said primary valve as desired to provide said low oil pressure in said control gallery, and to prevent said opening of said primary valve as desired to provide high oil pressure in said control gallery.